

AMENDMENTS TO THE CLAIMS

1. (Currently Amended): An etching apparatus for etching glass substrates for a liquid crystal display comprising:
 - an etching bath;
 - an etchant recycling part in the etching bath;
 - a DI and undiluted etchant supply part for supplying a DI water and an undiluted etchant;
 - an etchant mixing part for mixing the DI water and the undiluted etchant for producing a mixed etchant; and
 - an etchant heating part for heating the mixed etchant.
2. (Original): The apparatus of claim 1, wherein the etchant heating part heats the mixed etchant to a temperature higher than room temperature.
3. (Original): The apparatus of claim 1, wherein the etching bath comprises:
 - a container for holding etchant;
 - a bubble plate at a lower portion of the container, the bubble plate for generating bubbles using a supplied gas;
 - a gas supply tube connected to the bubble plate for supplying a gas; and
 - a temperature measuring unit within the container.
4. (Original): The apparatus of claim 3, wherein the gas includes at least one of nitrogen (N₂) and oxygen (O₂).
5. (Original): The apparatus of claim 1, wherein the etchant recycling part comprises:
 - a storage tank storing the etchant; and
 - at least one filter filtering the etchant into the storage tank.
6. (Original): The apparatus of claim 1, further comprising a cooling water tube in the etchant mixing part.
7. (Original): The apparatus of claim 1, further comprising a concentration measuring unit in

the etchant mixing part.

8. (Original): The apparatus of claim 1, further comprising a tube connected to the etching bath, the etchant recycling part, the etchant mixing part and the etchant heating part.

9. (Original): The apparatus of claim 8, wherein the tube includes at least one pump.

10. (Original): The apparatus of claim 1, wherein the etchant includes HF.

11. (Original): The apparatus of claim 1, further comprising:

a cleaning bath for cleaning the etched substrate; and

a drying bath for drying the etched substrate.

12. (Currently Amended): An apparatus for etching glass substrates for a liquid crystal display ~~for etching a material~~, comprising:

an etching bath containing an etchant;

a temperature measuring unit for measuring the temperature of the etchant in the etch bath; and

an etchant heating element for heating the etchant.

13. (Original): The apparatus for etching a material of claim 12, further comprising:

an undiluted etchant supply part for supplying undiluted etchant;

a water supply part for supplying water; and

a mixing part for mixing the undiluted etchant and the water.

14. (Original): The apparatus for etching material of claim 13, wherein the etchant heating element is in the mixing part.

15. (Original): The apparatus for etching material of claim 13, further comprising an etchant concentration measuring unit in the mixing part.

16. (Original): The apparatus for etching material of claim 13, further comprising:

an etchant recycling unit for receiving etchant from the etching bath and providing etchant to the mixing part.

17. (Original): The apparatus for etching material of claim 16, wherein the etchant recycling unit includes a filter and a storage tank.

18. (Original): The apparatus for etching a material of claim 12, wherein the etching bath includes a bubble plate.

19. (Original): The apparatus for etching a material of claim 12, wherein the etchant includes HF.

20. (Withdrawn): A method of etching a material, comprising:
providing an etchant in an etching bath;
providing a material to be etched in the etching bath to etch the material;
monitoring temperature of the etchant in the etching bath after the material is provided in the etching bath; and
stopping etching of the material in the etching bath when the temperature of the etchant is a predetermined value.

21. (Withdrawn): The method of claim 20, further comprising:
maintaining a constant concentration of the etchant in the etching bath.

22. (Withdrawn): The method of claim 20, wherein the material to be etched is glass.

23. (Withdrawn): The method of claim 20, wherein the etchant is HF.

24. (Withdrawn): The method of claim 20, further comprising: heating the etchant in the etching bath.

AMENDMENTS TO THE DRAWINGS

The replacement sheet attached replaces all the original drawings (Figs. 1-4), including Figs. 2 and 4, which have been hereby changed. The changes in FIGs. 2 and 4 have been made to cure minor inconsistencies in the reference numbers. No new matter has been added to the drawings.

Attachment: Replacement sheet

Annotated sheet showing changes